

EXHIBIT 6

DANIEL WIGDOR, PHD – CURRICULUM VITAE

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I am a citizen of Canada and Ireland, and am eligible to work in the United States.

RESEARCH INTERESTS

My research lies in the area of Computer Science and Human Computer Interaction. I specialize in the design and engineering of post-WIMP user interfaces. I currently focus on high-performance user interfaces, design and development methods for ubiquitous computing, and tailored user interface components for unique users, technologies, or contexts of use. I have expertise in the development of user interfaces and user interface software, particularly for novel input technologies, such as touch, stylus, and gesture.

PROFESSIONAL EXPERIENCE

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| 2012-
Present | Cofounder, Scientific Advisor, Tactual Labs
I am cofounder of Tactual Labs, a startup out of my lab at the University of Toronto, which seeks to enable high-performance user input to interactive computers. |
| 2011-
Present | Assistant Professor, Department of Computer Science & Department of Mathematical and Computational Sciences, University of Toronto, Co-Director, Dynamic Graphics Project.
I am an assistant professor of computer science at the University of Toronto. I hold appointments in two departments of the university, where I conduct research, supervise graduate students & postdoctoral fellows, and teach graduate and undergraduate classes. I am also co-director of the Dynamic Graphics Project, a group of 7 faculty and dozens of post docs and graduate students conducting research in the areas of computer graphics, human computer interaction, and computer vision. |
| 2011-
2012 | Associate of the School of Engineering and Applied Sciences, Harvard University
As a member of the SDR Lab of SEAS at Harvard University, I participated in and provide supervision of research projects carried-out by post-doctoral fellows and interns. |
| 2010-
2012 | Affiliate Assistant Professor, University of Washington
I served as an affiliate assistant professor in both the <i>Department of Computer Science & Engineering</i> and the <i>Information School</i> at the University of Washington. |
| 2010 | Researcher, Microsoft Research
As a researcher at MSR, my mandate was to carry-on an active research agenda (including publication and patents), participate in service to the community, supervise graduate student interns, and drive innovation at Microsoft Corp. |
| 2008-
2010 | User Experience Architect, Entertainment & Devices Division, Microsoft Corp.
As a product team member, I held more than a half a dozen titles and roles. My ultimate position before moving to Microsoft Research was as the architect of user experiences of Natural User Interfaces at Microsoft's Entertainment & Devices division. I was responsible for ensuring a high-quality, exciting user experience in platform and partner applications, coordinating across product groups, and driving industry standards for interaction. Throughout my tenure, I had a dual focus on product architecture and research. |
| 2007-
2008 | Fellow, Initiative in Innovative Computing (IIC), Harvard University
I was a fellow in the Scientists' Discovery Room project at Harvard University. I conducted ethnographic studies of astrophysicists at the Harvard Smithsonian Center for Astrophysics, and helped lead the design and implementation of the WeSpace (described by several publications listed below). |
| 2005-
2008 | Research Intern, Mitsubishi Electric Research Laboratories (MERL)
I was an intern at MERL over four multi-term appointments, working as part of the Diamond Space project under the supervision of Dr. Chia Shen. I conducted the majority of my PhD at MERL. |
| 2003-
2010 | Cofounder, Iota Wireless
Cofounded Iota Wireless, a startup dedicated to text-entry techniques for mobile phones. Secured multiple rounds of financing, US & international patents, and general intellectual property issues, as well as a great deal of experience working at executive level of the wireless phone industry. |

- 2001-
2006 **Sessional Instructor, Department of Computer Science, University of Toronto**
Served as instructor responsible for undergraduate classes in computer science. Class sizes varied from 25 to over 200 students. Supervised teams of TA's, developed course materials, delivered lectures, set tests and exams. Courses in topics in computer science, including algorithms, data structures, formal analysis, human computer interaction. Taught development for computers and mobile phones in Java, C, and C++.
- 2004 **Consulting Designer, Bruce Mau Design**
Collaborated with Bruce Mau Design and the Institute Without Boundaries in concept and implementation of *Markets Gallery* of the *Massive Change* project: <http://www.massivechange.com>.
- 1999-
2003 **Teaching Assistant, Department of Computer Science, University of Toronto**
Served as a teaching assistant in undergraduate classes at the University of Toronto. Led tutorials, consulted with professors on curriculum topics. Topics included computer programming, cryptography, algorithm design, formal analysis, software engineering, and human-computer interaction.
- 1999-
2001 **Software Developer and Devices Specialist, University Health Network**
Developed an automated inventory application for the University Health Network's Desktop Rollout Project (Y2K replacement of > 4000 personal desktops). Worked as a *Devices Specialist*, investigating and evaluating the suitability of novel devices for their inclusion in the hospitals.

EDUCATION

- 2008 **Ph.D. Computer Science, University of Toronto**
Supervised by Prof. Ravin Balakrishnan at University of Toronto, majority of work conducted at Mitsubishi Electric Research Labs under the supervision of Dr. Chia Shen. Study of the use of multi-touch tabletops and large-scale, multi-surface, real-time collaborative environments. Thesis [N.4] below.
- 2004 **M.Sc. Computer Science, University of Toronto**
Supervised by Prof. Ravin Balakrishnan. Thesis [N.2] and papers [C.2, C.3] below.
- 2002 **Hon. B.Sc., University of Toronto**
Specialization in Human Computer Interaction, including major-equivalent in computer science, minor-equivalent in psychology and sociology. Paper [C.1] below.

AWARDS & FUNDING

- 2014 **ACM CHI: People's Choice Best Talk Award**
For talk delivered by MSc student, Jishuo Yang, for [C. 40] below. Awarded to top 8 talks among 300 presented at ACM CHI. Two of the 8 were awarded to my students.
- ACM CHI: People's Choice Best Talk Award**
For talk delivered by intern advisee, Anthony Chen, for [C. 41] below. Awarded to top 8 talks among 300 presented at ACM CHI. Two of the 8 were awarded to my students.
- Early Researcher Award (ERA Round 9), Ontario Ministry of Research and Innovation (\$150,000)**
Awarded to "best and brightest innovators and researchers" among full-time faculty in Ontario who are fewer than 10 years from receiving their PhD.
- Best Paper, CHI 2014**
[C.41] below was named Best Paper, which is awarded to the top 1% of submission to ACM CHI 2014.
- 2013 **Connaught New Researcher Award (\$50,000)**
Awarded to support select new faculty at the University of Toronto.
- Best Student Paper, GI 2013**
PhD student Michael Glueck received the *Michael AJ Sweeney Award* for best student paper for our paper, [C.36], below.
- Tactual Labs (\$50,000)**
Project funding for startup-sponsored activities in my research lab at the University of Toronto.
- Inventor of the Year, University of Toronto**
Hybrid Systems and Methods for Low-Latency User Input Processing and Feedback.

Dean's Excellence Award, University of Toronto

Awarded to 5% of faculty in division for achievement in each of research, teaching, and service.

2012

Mitacs Accelerate (\$30,000)

A Data-Driven Approach to Formulating Best Practices for Mobile Games. Project funding for Rebecca Dreezer, M.Sc. in Applied Computing, Uken Games.

Dean's Excellence Award, University of Toronto

Awarded to 5% of faculty in division for achievement in each of research, teaching, and service.

Microsoft Research (\$40,000)

Project Funding.

Ministry of Economic Development and Innovation, Ontario Research Fund (\$198,000)

User interface feedforward and feedback supporting and enabling ubiquitous computing (provincial matching grant to Canadian Foundation for Innovation, below).

National Science and Engineering Research Council: Discovery Grant Supplement (\$5,000)

User interface feedforward and feedback supporting and enabling body tracking technologies.

Autodesk Research (\$7,000)

General project funding.

Steven Sanders (\$90,000)

Project funding for the *Symphony of Devices*.

Canadian Foundation for Innovation (\$198,000)

User interface feedforward and feedback supporting and enabling ubiquitous computing.

2011

Microsoft Corp. (\$30,000)

Donation of Microsoft Surface equipment.

National Science and Engineering Research Council: Discovery Grant (\$145,000)

User interface feedforward and feedback supporting and enabling body tracking technologies.

National Science and Engineering Research Council: Discovery Accelerator Supplement (DAS) (\$120,000)

User interface feedforward and feedback supporting and enabling body tracking technologies.

The DAS Program provides substantial and timely resources to a small group of researchers whose research proposals suggest and explore high-risk, novel or potentially transformative concepts and lines of inquiry, and are likely to have impact by contributing to groundbreaking advances in the area.

University of Toronto: Startup Funding (\$527,000)

Startup funding for my position at U of T. Mix of unrestricted funds (\$100,000), lab renovations (\$100,000), and student funding (\$327,000).

Association for Computing Machinery: ACM CHI Best Paper Honorable Mention

At ACM CHI 2011 for [C.24] below.

Mitacs Accelerate (\$30,000)

Novel 3-D User Interfaces for improved situation awareness and mobile robot control. Project funding for Ben Chan, M.Sc. in Applied Computing, MacDonald Dettwiler and Associates.

2007

National Science Foundation (\$8,000) (authored)

Tabletop 2007 Student Volunteer Program

National Science Foundation (\$20,000) (authored)

ISWC 2007

Harvard University: Initiative in Innovative Computing Fellowship (\$15,600)

Research in the design multi-surface, multi-user, multi-touch room for astrophysicists.

2004

Association for Computing Machinery

ACM UIST Best Paper Award

Wolfond Fellowship (\$10,000)

Partial funding for Ph.D.

University of Toronto Fellowship (\$75,000)

Funding for Ph.D.

2002

Microsoft Research (\$33,000)

Project Funding

University of Toronto Fellowship (\$26,000)

Funding for M.Sc.

Innis College Graduating Student Recognition Award

2001

Hudson's Bay Company Award in Computer Science**STUDENTS & POST DOCS**

Ricardo Jota Costa, PDF**Michael Glueck, Ph.D.****Peter Hamilton, Ph.D.****Haijun Xia, M.Sc.****Rabia Aslam, M.Sc.****Varun Perumal, M.Sc.****Andrew Pelegris, UG****ALUMNI**

2014

Eleni Triantafillou, UG

Undergraduate research student.

Benjamin McCanny, UG

Undergraduate research assistant. See [C.43] below.

Jishuo Yang, M.Sc.

Research MSc graduate. See [C.40] below.

Peter Hamilton, M.Sc.

Research MSc graduate. See [C.39] below. Proceeded to PhD program.

2013

Jay (Zhe) Yu, UG

Undergraduate research intern. See [C.43] below.

Eric J.X. Yao, UG

Undergraduate research intern under NSERC USRA program (2 terms).

Yan Sun, UG

Undergraduate research intern under NSERC USRA program (1 term).

Rebecca Dreezer, M.Sc.A.C.

Professional MSc graduate, placement at Uken Games.

David Hoon, M.Sc.A.C.

Professional MSc graduate, placement at Research in Motion.

Benjamin McCanny, UG

Engineering Science undergraduate thesis student.

Thariq Shihpar, UG

Engineering Science undergraduate thesis student. See [C.38] below.

Ankith Giliyar Shanthiraj, UG

Visiting undergraduate research intern, MITACS GlobalLinks program.

2012

Michael Glueck, M.Sc.

MSc graduate. See [C.36] below. Proceeded to PhD program.

Brian Chan, M.Sc.A.C.

Professional MSc graduate, co-advised with Dr. Piotr Jasiobedzki of MacDonald, Dettwiler and Associates Ltd.

Rajavi Shah, UG

Undergraduate research intern (2 terms).

Stephanie Knapp, UG

Undergraduate research intern (2 terms).

Faizan Haque, UG

Undergraduate research intern.

Osman Haque, UG

Undergraduate research intern.

Michael Andreae, UG

Undergraduate research intern.

2010 Tao Ni, Research Intern (Virginia Tech) @ Microsoft Research

Co-advised intern at Microsoft Research with Amy Karlson. See [C.25] below.

Shaun Kane, Research Intern (University of Washington) @ Microsoft Research

Co-advised intern at Microsoft Research with Meredith Ringel Morris and Annuska Perkins. See [C.27] below.

Roland Aigner, Research Intern (Upper Austria University of Applied Science) @ Microsoft Research

Co-advised intern at Microsoft Research with Hrvoje Benko. See [C.30] below.

2009 Dustin Freeman, Research Intern (University of Toronto) @ Microsoft Research

Co-advised intern at Microsoft Research Hrvoje Benko. See [C.21, P.10, P.16] below.

2007 Peter Brandl, Research Intern (Upper Austria University of Applied Science) @ Mitsubishi Electric Research Labs

Co-advised intern at Mitsubishi Electric Research Labs with Chia Shen and Clifton Forlines. See [C.16] below.

Hao Jiang, Research Intern (Tsinghua University) @ Mitsubishi Electric Research Labs

Co-advised intern at Mitsubishi Electric Research Labs with Chia Shen and Clifton Forlines. See [S.5, C.17] below.

2006 CHI 2006 Student Design Competition

An undergraduate student group from my fall 2005 offering of CSC318 at the University of Toronto was selected as one of twelve semi-finalists to attend the CHI 2006 student design competition.

2003 Clarence Chan, Hon. B.Sc.

Supervised undergraduate research project.

SUPERVISORY & EXAMINATION COMMITTEE MEMBERSHIP**Current Supervisory Committee Membership (Others' Students)**

Pif Edwards (PhD supervisory committee, University of Toronto)
 Dustin Freeman (PhD supervisory committee, University of Toronto)
 Aakar Gupta (PhD supervisory committee, University of Toronto)
 Sean Hayes (PhD supervisory committee, Vanderbilt University)
 Rorik Henrikson (PhD supervisory committee, University of Toronto)
 Velian Pendev (PhD supervisory committee, University of Toronto)

Previous Supervisory Roles (Others' Students)

David Holman (PhD examination committee: external examiner, Queens University, 2014)
 Ahmed Arif (PhD examination committee: external member, York University, 2013)
 Koji Yatani (PhD examination committee, University of Toronto, 2011)
 David Dearman (PhD examination committee, University of Toronto, 2011)

CONFERENCE FULL PAPERS (FULLY REFEREED)

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- [C.44] Leigh, D., Forlines, C., Jota, R., Sanders, S., **Wigdor, D.** (2014 – in press). High-Rate, Low-Latency Multi-Touch sensing with Simultaneous Orthogonal Multiplexing. In submission to *Proceedings of the 2014 symposium on User Interface Software and Technology* (ACM UIST). 10 pages, in press.
 - [C.43] Xia, H., Jota, R., McCanny, B., Yu, Z., Forlines, C., Singh, K., **Wigdor, D.** (2014 – in press). Zero-Latency Tapping: Using Hover Information to Predict Touch Locations and Eliminate Touchdown Latency. In submission to *Proceedings of the 2014 symposium on User Interface Software and Technology* (ACM UIST). 9 pages, in press.
 - [C.42] Glueck, M., Khan, A., **Wigdor, D.** (2014). Dive In! Enabling Progressive Loading for Real-Time Navigation of Data Visualizations. Accepted to appear in *Proceedings of the 2014 SIGCHI conference on human factors in computing systems* (ACM CHI), 561-570.
 - [C.41] Chen, X.A., Grossman, T., **Wigdor, D.**, Fitzmaurice, G. (2014). Duet: Exploring Joint Interactions on a Smart Phone and a Smart Watch. Accepted to appear in *Proceedings of the 2014 SIGCHI conference on human factors in computing systems* (ACM CHI), 159-168. **Best Paper, People's Choice: Best Talk**
 - [C.40] Yang, J., **Wigdor, D.** (2014). Panelrama: Enabling Easy Specification of Cross-Device Web Applications. Accepted to appear in *Proceedings of the 2014 SIGCHI conference on human factors in computing systems* (ACM CHI), 2783-2792. **People's Choice: Best Talk.**
 - [C.39] Hamilton, P., **Wigdor, D.** (2014). Conductor: Enabling and Understanding Cross-Device Interaction. Accepted to appear in *Proceedings of the 2014 SIGCHI conference on human factors in computing systems* (ACM CHI), 2773-2782.
 - [C.38] Truong, K., Shihpar, T., **Wigdor, D.** (2014). Slide to X: Unlocking the Potential of Smartphone Unlocking. Accepted to appear in *Proceedings of the 2014 SIGCHI conference on human factors in computing systems* (ACM CHI), 2635-3644.
 - [C.37] Santosa, S., **Wigdor, D.** (2013). A Field Study of Multi-Device Workflows in Distributed Workspaces. *Proceedings of UBICOMP 2013: The 15th International Conference on Ubiquitous Computing*, 63-72.
 - [C.36] Glueck, M., Grossman, T., **Wigdor, D.** (2013). A Model of Navigation for Very Large Data Views. *Proceedings of Graphics Interface 2013* (GI), 9-16. **Best Student Paper**
 - [C.35] Baily, G., Pietzrak, T., Deber, J., **Wigdor, D.** (2013). Métamorphe: Augmenting Hotkey Usage with Actuated Keys. *Proceedings of the 2013 SIGCHI conference on human factors in computing systems* (ACM CHI), 563-572.
 - [C.34] Zhao, J., **Wigdor, D.**, Balakrishnan, R. (2013). TrailMap: Facilitating Information Seeking in a Multi-Scale Digital Map via Implicit Bookmarking. *Proceedings of the 2013 SIGCHI conference on human factors in computing systems* (ACM CHI), 3009-3018.
 - [C.33] Jota, R., Ng, A., Dietz, P., **Wigdor, D.** (2013). How Fast is Fast Enough? A Study of the Effects of Latency in Direct-Touch Pointing Tasks. *Proceedings of the 2013 SIGCHI conference on human factors in computing systems* (ACM CHI), 2291-2300.
 - [C.32] Ng, A., Lepinski, J., **Wigdor, D.**, Sanders, S., Dietz, P. (2012). Designing for Low-Latency Direct-Touch Input. *Proceedings of the 2012 ACM symposium on User Interface Software and Technology* (ACM UIST), 453-464.
 - [C.31] Block, F., **Wigdor, D.**, Horn, M., Shen, C. (2012). FlowBlocks: a Multi-Touch UI for Crowd Interaction. *Proceedings of the 2012 ACM symposium on User Interface Software and Technology* (ACM UIST), 497-508.
 - [C.30] Yang, X.D., Grossman, T., **Wigdor, D.**, Fitzmaurice, G. (2012). Magic Finger: Always-Available Input through Finger Instrumentation. *Proceedings of the 2012 ACM symposium on User Interface Software and Technology* (ACM UIST), 147-156.
 - [C.29] Zarek, A., **Wigdor, D.**, Singh, K. (2012). SNOUT: Enabling One-Handed use of Handheld Capacitive Touch Devices. *Proceedings of the International Working Conference on Advanced Visual Interfaces* (AVI '12), 140-147.

- [C.28] Bailly, G., Mueller, J., Rohs, M., **Wigdor, D.**, Kratz, S. (2012). ShoeSense: A New Perspective on Gestural Interaction and Wearable Applications. *Proceedings of the 2012 SIGCHI conference on human factors in computing systems* (ACM CHI), 1239-1248.
- [C.27] Kane, S., Morris, M., Perkins, A., **Wigdor, D.**, Ladner, R., Wobbrock, J. (2011). Access Overlays: Improving Non-Visual Access to Large Touch Screens for Blind Users. *Proceedings of the 2011 ACM symposium on User Interface Software and Technology* (ACM UIST), 273-282.
- [C.26] Annett, M., Grossman, T., **Wigdor, D.**, Fitzmaurice, G. (2011). Medusa: A Proximity-Aware Multi-touch Tabletop. *Proceedings of the 2011 ACM symposium on User Interface Software and Technology* (ACM UIST), 337-346.
- [C.25] Ni, T., Karlson, A., **Wigdor, D.** (2011). AnatOnMe: Improving Doctor-Patient Communication Using a Projection-Based Handheld Device. *Proceedings of the 2011 SIGCHI conference on human factors in computing systems* (ACM CHI), 3333-3342.
- [C.24] Findlater, L., Wobbrock, J., **Wigdor, D.** (2011). Typing on Flat Glass: Examining Ten-Finger Expert Typing Patterns on Touch Surfaces. *Proceedings of the 2011 SIGCHI conference on human factors in computing systems* (ACM CHI), 2453-2462. **Best Paper: Honorable Mention**
- [C.23] **Wigdor, D.**, Benko, H., Pella, J., Lombardo, J., Williams, S. (2011). Rock & Rails: Extending Multi-touch Interactions with Shape Gestures to Enable Precise Spatial Manipulations. *Proceedings of the 2011 SIGCHI conference on human factors in computing systems* (ACM CHI), 1581-1590.
- [C.22] Bragdon, A., Uguray, A., **Wigdor, D.**, Zeleznik, R., Anagnostopoulos, S., Feman, R. (2010). Gesture Play: Fun, Positive Reinforcement through Game-like Physical Metaphors to Motivate Online Gesture Learning. *Proceedings of the 2011 ACM symposium on Tabletops and Interactive Surfaces* (ACM ITS), 39-48.
- [C.21] Morris, M., Lombardo, J., **Wigdor, D.** (2010). WeSearch: Supporting Collaborative Search and Sensemaking on a Tabletop Display. *Proceedings of the 2010 ACM symposium on Computer Supported Cooperative Work* (ACM CSCW), 401-410.
- [C.20] Freeman, D., Benko, H., Morris, M., **Wigdor, D.** (2009). ShadowGuides: Visualizations for In-Situ Learning of Multi-Touch and Whole-Hand Gestures. *Proceedings of the 2009 ACM symposium on Tabletops and Interactive Surfaces* (ACM ITS), 183-190.
- [C.19] **Wigdor, D.**, Williams, S., Cronin, M., Levy, R., White, K., Mazeev, M., Benko, H. (2009). Ripples: Utilizing Per-Contact Visualizations to Improve User Interaction with Touch Displays. *Proceedings of the 2009 ACM symposium on User Interface Software and Technology* (ACM UIST), 3-12.
- [C.18] **Wigdor, D.**, Jiang, H., Borkin, M., Forlines, C., Shen, C. (2009). The WeSpace: The Design, Development, and Deployment of a Walk-Up and Share Multi-Surface Visual Collaboration System. *Proceedings of the 2009 SIGCHI conference on human factors in computing systems* (ACM CHI), 1237-1246.
- [C.17] Jiang, H., **Wigdor, D.**, Forlines, C., Shen, C. (2008). System Design for the WeSpace: Linking Personal Devices to a Table-Centered Multi-User, Multi-Surface Environment. *IEEE Workshop on Tabletops and Interactive Surfaces* (IEEE Tabletop), 105-112.
- [C.16] Brandl, P., Forlines, C., **Wigdor, D.**, Shen, C. (2008). Combining and Measuring the Benefits of Bimanual Pen and Direct-Touch Interaction on Horizontal Interfaces. *Proceedings of the 2008 Conference on Advanced Visual Interfaces* (AVI 2008), 154-161.
- [C.15] **Wigdor, D.**, Penn, G., Ryall, K., Shen, C. (2007). Living with a Tabletop: Analysis and Observations of Long Term Office Use of a Multi-Touch Table. *Proceedings of the Second IEEE International Workshop on Horizontal Interactive Human-Computer Systems* (IEEE Tabletop), 60-67.
- [C.14] Grossman, T., **Wigdor, D.** (2007). Going Deeper: a Taxonomy of 3D on the Tabletop. *Proceedings of the Second IEEE International Workshop on Horizontal Interactive Human-Computer Systems* (IEEE Tabletop), 137-144.
- [C.13] **Wigdor, D.**, Forlines, C., Baudisch, P., Barnwell, J., Shen, C. (2007). LucidTouch: A See-Through Multi-Touch Mobile Device. *Proceedings of the 2007 ACM symposium on User Interface Software and Technology* (ACM UIST), 269-278.

- [C.12] **Wigdor, D.**, Forlines, C., Shen, C., Balakrishnan, R. (2007). Perception of Elementary Graphical Elements in Tabletop and Multi-Surface Environments. *Proceedings of the 2007 SIGCHI conference on human factors in computing systems* (ACM CHI), 473-482.
- [C.11] Forlines, C., **Wigdor, D.**, Balakrishnan, R., Shen, C. (2007). Direct-Touch vs. Mouse Input for Tabletop Displays. *Proceedings of the 2007 ACM SIGCHI conference on human factors in computing systems* (ACM CHI), 647-656.
- [C.10] Grossman, T., **Wigdor, D.**, Balakrishnan, R. (2007). Exploring and Reducing the Effects of Orientation on Text Readability in Volumetric Displays. *Proceedings of the 2007 ACM SIGCHI conference on human factors in computing systems* (ACM CHI), 483-492.
- [C.9] **Wigdor, D.**, Leigh, D., Forlines, C., Shen, C., Shipman, S., Barnwell, J., Balakrishnan, R. (2006). Under the Table Interaction. *Proceedings of the 2006 ACM symposium on User Interface Software and Technology* (ACM UIST), 259-268.
- [C.8] Forlines, C., Shen, C., **Wigdor, D.**, Balakrishnan, R. (2006). Exploring the Effects of Group Size and Display Configuration on Visual Search. *Proceedings of the 2006 ACM conference on Computer Supported Cooperative Work* (ACM CSCW), 11-20.
- [C.7] **Wigdor, D.**, Shen, C., Forlines, C., Balakrishnan, R. (2006). Effects of Display Position and Control Space Orientation on User Preference and Performance. *Proceedings of the 2006 ACM SIGCHI conference on human factors in computing systems* (ACM CHI), 309-318.
- [C.6] Hancock, M., Vernier, F. D., **Wigdor, D.**, Carpendale, S., Shen, C. (2006). Rotation and Translation Mechanisms for Tabletop Interaction. *Proceedings of the First IEEE International Workshop on Horizontal Interactive Human-Computer Systems* (IEEE Tabletop), 79-86.
- [C.5] **Wigdor, D.**, Balakrishnan, R. (2005). Empirical Investigation into the Effect of Orientation on Text Readability in Tabletop Displays. *Proceedings of the 9th European Conference on Computer Supported Cooperative Work* (ECSCW), 205-224.
- [C.4] Grossman, T., **Wigdor, D.**, Balakrishnan, R. (2004). Multi-Finger Gestural Interactions with 3D Volumetric Displays. *Proceedings of the 17th annual ACM symposium on User Interface Software and Technology* (ACM UIST), 61-70. **Best Paper**
- [C.3] **Wigdor, D.**, Balakrishnan, R. (2004). A Comparison of Consecutive and Concurrent Input Text Entry Techniques for Mobile Phones. *Proceedings of the 2004 ACM SIGCHI conference on Human factors in computing systems* (ACM CHI), 81-88.
- [C.2] **Wigdor, D.**, Balakrishnan, R. (2003). TiltText: Using tilt for text input to mobile phones. *Proceedings of the 16th annual ACM symposium on user interface software and technology* (ACM UIST), 81-90.
- [C.1] schraefel, m.c., Zhu, Y., Modjeska, D., **Wigdor, D.**, Zhao, S. (2002). Hunter Gatherer: interaction support for the creation and management of within-web page collections. *Proceedings of the eleventh international conference on the World Wide Web* (ACM WWW), 172-181.

CONFERENCE SHORT PAPERS (FULLY REFEREED)

- [S.6] Jota, R., Lopes, P., Wigdor, D., Jorge, J. (2014). Let's Kick It: How to Stop Wasting the Bottom Third of your Large Screen Display. *SIGCHI conference on human factors in computing systems* (ACM CHI), 1411-1414.
- [S.5] Jiang, H., **Wigdor, D.**, Forlines, C., Borkin, M., Kauffman, J., Shen, C. (2008). LivOlay: Interactive Ad-Hoc Registered Overlapping of Applications for Collaborative Visual Exploration. *SIGCHI conference on human factors in computing systems* (ACM CHI), 157-160.
- [S.4] Forlines, C., Esenther, A., Shen, C., **Wigdor, D.**, Ryall, K. (2006). Adapting a Single-Display, Single-User Geospatial Application for a Multi-Device, Multi-User Environment. *Proceedings of the 2006 ACM conference on User Interface Software and Technology* (ACM UIST), 273-276.
- [S.3] **Wigdor, D.**, Shen, C., Forlines, C., Balakrishnan, R. (2006). Table-Centric Interactive Spaces for Real-Time Collaboration: Solutions, Evaluation, and Application Scenarios. *Proceedings of the 2006 conference on Collaborative Technologies* (CollabTech), 9-15.

- [S.2] **Wigdor, D.**, Shen, C., Forlines, C., Balakrishnan, R. (2006). Table-Centric Interactive Spaces for Real-Time Collaboration. *Proceedings of the 2006 conference on Advanced Visual Interfaces (AVI)*, 103-107.
- [S.1] schraefel, m.c., **Wigdor, D.**, Zhu, Y., Modjeska, D. (2002). Hunter gatherer: within-web-page collection making. *Extended Abstracts on Human Factors in Computer Systems (ACM CHI)*, 826-827.

JOURNAL PAPERS (FULLY REFEREED)

- [J.2] Morris, M., Fisher, D., **Wigdor, D.** (2010) Search on Surfaces: Exploring the Potential of Interactive Tabletops for Collaborative Search Tasks. *Journal of Information Processing and Management* 46 (6), November, 2010, 703-717.
- [J.1] Shen, C., Ryall, K., Forlines, C., Esenther, A., Vernier, F.D., Everitt, K., Wu, M., **Wigdor, D.**, Ringel Morris, M., Hancock, M., Tse, E. (2006). Informing the Design of Direct-Touch Tabletops. *Special Issue of IEEE Computer Graphics and Applications*, 26 (5), 36-46. Sept/Oct, 2006.

BOOKS & CHAPTERS

- [B.8] **Wigdor, D.**, and Wixon, D. *Brave NUI World: Designing Natural User Interfaces for Touch and Gesture* (Korean Edition), Morgan Kauffmann Publishers Inc., San Francisco, CA, USA, 2013.
- [B.7] **Wigdor, D.**, and Wixon, D. *Brave NUI World: Designing Natural User Interfaces for Touch and Gesture* (Chinese Edition), Morgan Kauffmann Publishers Inc., San Francisco, CA, USA, 2013.
- [B.6] Tucker, A., Gonzalez, T., Topi, H., Diaz-Topi, J. (Ed). *Computer Science Handbook*. Chapter: *Input/Output Devices and Interaction Techniques*. Hinckley, K., Jacob, R., Ware, C., Wobbrock, J., **Wigdor, D.**, Chapman & Hall/CRC, USA (in press).
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- [B.4] **Wigdor, D.**, and Wixon, D. *Brave NUI World: Designing Natural User Interfaces for Touch and Gesture*, Morgan Kauffmann Publishers Inc., San Francisco, CA, USA, 2013.
- [B.3] Müller-Tomfelde, C. (ed.) *Tabletops - Horizontal Interactive Displays*. Human Computer Interaction Series, Springer Verlag, 2010. Chapter: *On, Above, and Beyond: Taking Tabletops to the Third Dimension*. Grossman, T., **Wigdor, D.** Springer, New York, USA, 2010, 277-299.
- [B.2] Müller-Tomfelde, C. (ed.) *Tabletops - Horizontal Interactive Displays*. Human Computer Interaction Series, Springer Verlag, 2010. Chapter: *Imprecision, Inaccuracy, and Frustration: the Tale of Touch Input*. Benko, H., **Wigdor, D.** Springer, New York, USA, 2010, 249-275.
- [B.1] Dillenbourg, P., Huang, J., and Cherubini, M., (Eds.) *Interactive Artifacts and Furniture Supporting Collaborative Work*. CACL Series. Springer, New York, USA, 2008. Chapter: *Collaborative Tabletop Research and Evaluation*. Shen, C., Ryall, K., Forlines, C., Esenther, A., Vernier, F.D., Everitt, K., Wu, M., **Wigdor, D.**, Ringel Morris, M., Hancock, M., Tse, E. 111-128

PATENTS

- [P.32] Leigh, D., **Wigdor, D.**, Sanders, S., Jota, R., Forlines, C. (pending). *Touch and Stylus Latency Testing Apparatus*. US patent application no. 61/887,615. Washington, DC: US Patent and Trademark Office.
- [P.31] **Wigdor, D.**, McCanny, B. (pending). *Reducing Control Response Latency With Defined Cross-Control Behavior*. US patent application no. 61/845,879. Washington, DC: US Patent and Trademark Office.
- [P.30] **Wigdor, D.**, Sanders, S., Jota, R., Forlines, C. (pending). *Low-latency visual response to input via pre-generation of alternative graphical representations of application elements and input handling on a graphical processing unit*. US patent application no. 61/935,674. Washington, DC: US Patent and Trademark Office.
- [P.29] Jota, R., Forlines, C., Singh, K., **Wigdor, D.** (pending). *Systems and Methods for Providing Response to User Input using Information about State Changes And Predicting Future User Input*. US patent application no. 61/879,245. Washington, DC: US Patent and Trademark Office.
- [P.28] Leigh, D., Forlines, C., Sanders, S., **Wigdor, D.**, Jota, R. (pending). *Fast Multi-Touch Update Rate Throttling*. US patent application no. 61/928,069. Washington, DC: US Patent and Trademark Office.

- [P.27] Leigh, D., **Wigdor, D.** (pending). *Low-Latency Touch Sensitive Device*. US patent application no. 13/841,436. Washington, DC: US Patent and Trademark Office.
- [P.26] **Wigdor, D.** (pending). *Fast Multi-Touch Sensor with User-Identification Techniques*. US patent application no. 61/799,035. Washington, DC: US Patent and Trademark Office.
- [P.25] Yang, X-D., Grossman, T., **Wigdor, D.**, Fitzmaurice, G. (pending). *Magic Finger Always Available Input Through Finger Instrumentation*. US patent application no. 61/708,790. Washington, DC: US Patent and Trademark Office.
- [P.24] Annett, M., Grossman, T., **Wigdor, D.**, Fitzmaurice, G. (pending). *Proximity-aware Multi-touch tabletop* US patent application no. US 13/651,263. Washington, DC: US Patent and Trademark Office.
- [P.23] Annett, M., Grossman, T., **Wigdor, D.**, Fitzmaurice, G. (pending). *Proximity-aware Multi-touch tabletop* US patent application no. US 13/651,257. Washington, DC: US Patent and Trademark Office.
- [P.22] **Wigdor, D.**, Sanders, S., Costa, R., Forlines, C. (pending). *Hybrid systems and methods for low-latency user input processing and feedback*. US patent application no. US 61/710,256. Washington, DC: US Patent and Trademark Office.
- [P.21] Hoover, P., Sivaji, V., Lombardo, J., **Wigdor, D.** (pending). *Snapping user interface elements based on touch input*. US patent application no. 12/907,887. Washington, DC: US Patent and Trademark Office.
- [P.20] **Wigdor, D.**, Tedesco, M., Wilson, A., Clavin, J. (pending). *Integrated virtual environment*. US patent application no. 13/084,786. Washington, DC: US Patent and Trademark Office.
- [P.19] Tedesco, M., **Wigdor, D.** (2012). *Theme-based augmentation of photorepresentative view*. US patent application no. 13/044,895. Washington, DC: US Patent and Trademark Office.
- [P.18] Clavin, J., Tedesco, M., **Wigdor, D.** (2012). *Augmented view of advertisements*. US patent no. 8,670,183. Washington, DC: US Patent and Trademark Office.
- [P.17] Perkins, A., Hayes, S., Morris., M., **Wigdor, D.**, Lombardo, J., Aumiller, C. (2011). *Tactile tile vocalization*. US patent application no. 12/791,962. Washington, DC: US Patent and Trademark Office.
- [P.16] Benko, H., Freeman, D., **Wigdor, D.** (2011). *Interfacing with a computing application using a multi-digit sensor*. US patent application no. 12/767,804. Washington, DC: US Patent and Trademark Office.
- [P.15] **Wigdor, D.**, Morris, M., Larco, V., Lombardo, J., McDirmid, S., LaRue, M., Gil, E., Lobardo, J. (2011). *Collaborative search and share*. US patent application no. 12/771,282. Washington, DC: US Patent and Trademark Office.
- [P.14] Hoover, P., Oustiougov, M., **Wigdor, D.**, Benko, H., Lombardo, J. (2011). *Hand posture mode constraints on touch input*. US patent no. 8,514,188. Washington, DC: US Patent and Trademark Office.
- [P.13] **Wigdor, D.**, Lombardo, J., Perkins, A.G.Z., Hayes, S. (2011). *Three-state touch input system*. US patent application no. 12/630,381. Washington, DC: US Patent and Trademark Office.
- [P.12] **Wigdor, D.**, Hofmeester, G., Hoover, P. (2011). *Multi-modal interaction on multi-touch display*. US patent no. 8,487,888. Washington, DC: US Patent and Trademark Office.
- [P.11] Benko, H., **Wigdor, D.** (2011). *Teaching gesture initiation with registration posture guides*. US patent application no. 12/619,585. Washington, DC: US Patent and Trademark Office.
- [P.10] Benko, H., **Wigdor, D.**, Freeman, D. (2011). *Teaching gestures with offset contact silhouettes*. US patent no. 8,622,742. Washington, DC: US Patent and Trademark Office.
- [P.9] Cordon, L., Levy, R., Ramani, S., **Wigdor, D.**, Wu, J., Middleton, I., Hoover, P., Subramaniam, S., Pessoa, C. (2011). *Interactive display system with contact geometry interface*. US patent no. 8,390,600. Washington, DC: US Patent and Trademark Office.
- [P.8] **Wigdor, D.**, Hoover, P. (2011). *Displaying GUI elements on natural user interfaces*. US patent no. 8,261,212. Washington, DC: US Patent and Trademark Office.
- [P.7] Larco, V., **Wigdor, D.**, Williams, S. (2011). *Manipulation of graphical elements via gestures*. US patent application no. 12/541,795. Washington, DC: US Patent and Trademark Office.

- [P.6] **Wigdor, D.** (2011). *Natural input trainer for gestural instruction*. US patent application no. 12/619,575. Washington, DC: US Patent and Trademark Office.
- [P.5] **Wigdor, D.** (2010). *Controlling touch input modes*. US patent application no. 12/479,031. Washington, DC: US Patent and Trademark Office.
- [P.4] Levy, R., Williams, S., Cronin, M., Mazeev, M., Beatty, B., **Wigdor, D.** (2010). *Visual response to touch inputs*. US patent no. 8,446,376. Washington, DC: US Patent and Trademark Office.
- [P.3] **Wigdor, D.**, Leigh, D., Forlines, C., Shen, C., Barnwell, J., Shipman, S. (2007). *Inverted direct touch sensitive input devices*. US patent application no. 11/455,150. Washington, DC: US Patent and Trademark Office.
- [P.2] Forlines, C., Esenther, A., Shen, C., **Wigdor, D.**, Ryall, K. (pending). *Method and system for adapting a single-client, single-user application to a multi-user, multi-client environment*. US patent application no. 11/430,234. Washington, DC: US Patent and Trademark Office.
- [P.1] **Wigdor, D.** (2003). *Concurrent data entry for a portable device*. US patent no. 7,721,968. Washington, DC: US Patent and Trademark Office.

WORKSHOPS, TUTORIALS, SPECIAL INTERESTS GROUPS

- [W.5] **Wigdor, D.**, Morrison, G. (2010). Designing user interfaces for multi-touch and gesture devices. *Extended Proceedings of ACM CHI 2010 Conference on Human Factors in Computing Systems 2010*, 3193-3196.
- [W.4] **Wigdor, D.** (2009). *Sensing and Display Capabilities and the Surface Computing Experiences they Enable*. Tutorial at the 2009 Conference on Interactive Tabletops and Surfaces (ITS 2009).
- [W.3] **Wigdor, D.**, Fletcher, J., and Morrison, G. (2009). Designing user interfaces for multi-touch and gesture devices. *Extended Proceedings of ACM CHI 2009 Conference on Human Factors in Computing Systems 2009*, 2755-2758.
- [W.2] Shen, C., **Wigdor, D.**, Jiang, H., Horn, M. (2009). SDR: Touch to Discover and Learn. *Multi-Touch and Surface Computing*, a workshop of the ACM CHI 2009 Conference on Human Factors in Computing Systems 2009.
- [W.1] **Wigdor, D.**, Ivanov, Y., Wren, C.R. (2007). Soda Pop Zombies: Soft Drink Consumption and Motion. *Proceedings of the 2007 Workshop on Massive Datasets in conjunction with the Ninth International Conference on Multimodal Interfaces (ICMI)*, 8-9.

INVITED PAPERS & ARTICLES

- [I.5] **Wigdor, D.**, Wixon, D. (2011). Natural User Interfaces. *UX Magazine*, April 2011.
- [I.4] **Wigdor, D.** (2011). The Breadth-Depth Dichotomy: Opportunities and Crises in Expanding Sensing Capabilities. *Society for Information Display (SID): Information Display*, March 2011.
- [I.3] **Wigdor, D.** (2010). Architecting Next-Generation User Interfaces. *Proceedings of the 2010 Working Conference on Advanced Visual Interfaces (AVI 2010)*, 16-22. (Invited submission see, [T.37] below).
- [I.2] **Wigdor, D.** (2010). The Breadth/Depth Dichotomy, or Design Without a Lowest Common Denominator. Invited article in *Touch Panel* (33), January 2010. Veritas et Visus, Temple, TX. (8 pages).
- [I.1] Grossman, T., **Wigdor, D.**, Balakrishnan, R. (2005). Multi-Finger Gestural Interactions with 3D Volumetric Displays. Invited submission from ACM UIST. *Proceedings of the 2005 SIGGRAPH conference*, 931. (First published as [C.4] above).

OTHER PUBLICATIONS & THESES

- [N.4] **Wigdor, D.** (2008). *The Design of Table Centric, Interactive Spaces*. Ph.D. Thesis, Graduate Department of Computer Science, University of Toronto.
- [N.3] Hogan, B., **Wigdor, D.**, Suhonos, M., Josephy, M., Baecker, R. (Eds) (2004). Archived Multimedia Proceedings of Open Source and Free Software: Concepts, Controversies and Solutions. Online.
- [N.2] **Wigdor, D.** (2004). *Chording and Tilting for Rapid, Unambiguous Text Entry to Mobile Phones*. M.Sc. Thesis, Graduate Department of Computer Science, University of Toronto.
- [N.1] **Wigdor, D.** (2002) *Building Usability Prototypes in VB, Flash, and Dreamweaver*.

INVITED PRESENTATIONS

-
- [T.73] "Enabling a Symphony of Devices". Invited talk, Microsoft Research, Redmond, WA, USA, May 2014.
 - [T.72] "Achieving Perceptually Immediate Direct-Touch Input". Invited talk, Google Research, Mountain View, CA, USA, November 2013.
 - [T.71] "Achieving Perceptually Immediate Direct-Touch Input". Invited talk, Adobe Research, San Francisco, CA, USA, November 2013.
 - [T.70] "Achieving Perceptually Immediate Direct-Touch Input". Invited talk, Stanford University, Palo Alto, CA, USA, November 2013.
 - [T.69] "Achieving Perceptually Immediate Direct-Touch Input". Invited talk, University of California Berkeley, Berkeley, CA, USA, November 2013.
 - [T.68] "Achieving Perceptually Immediate Direct-Touch Input". Invited talk, University of Southern California, Los Angeles, CA, USA, October 2013.
 - [T.67] "Achieving Perceptually Immediate Direct-Touch Input". Invited talk, University of Utrecht, Utrecht, Netherlands, October 2013.
 - [T.66] "Achieving Perceptually Immediate Direct-Touch Input". Invited talk, University College London, London, UK, October 2013.
 - [T.65] "Designing for Interfaces Using Touch Input". Invited talk, Synopsys Inc., Sunnyvale, CA, USA, July 2013.
 - [T.64] "Zero-Latency User Interfaces: Why we Care, How We're Building Them". Invited talk, Microsoft Research Cambridge, Cambridge, UK, April 2013.
 - [T.63] "Busting the Myth: Natural Input Requires Learning". Invited talk with Kay Hofmeester, South by Southwest Interactive, Austin, TX, USA, March 2012.
 - [T.62] "Architecting an Interface for the Natural User". Invited talk, Quanta Research Cambridge, Cambridge, MA, USA, December 2011.
 - [T.61] "Architecting an Interface for the Natural User". Invited talk, *HCI Seminar Series 2011/2012*, Computer Science & Artificial Intelligence Laboratory, MIT, Cambridge, MA, USA. December 2011.
 - [T.60] "Architecting an Interface for the Natural User". Invited talk, University of Manitoba, Winnipeg, MB, Canada November 2011.
 - [T.59] "Brave GUI World: Creating Graphical User Interfaces to Facilitate Natural User Interaction". Invited Speaker, World Usability Day, Redmond, WA, USA November 2011.
 - [T.58] "Brave NUI World". Invited speaker, UX Book Club, Paris, France, September 2011.
 - [T.57] "From the movies to your living room: the secrets of Microsoft's gestural user interfaces". Keynote speaker, Summer Program for High School Teachers, University of Toronto, Toronto, ON, Canada, July 2011.
 - [T.56] "Information & Communication Technology in Canada". Invited panelist, Mitacs Event, Toronto, ON, Canada, July 2011.
 - [T.55] "Designing Natural: The Secrets of Microsoft's Natural User Interfaces". Invited talk, *Toronto Region – Computer Human Interaction*, Toronto, ON, Canada, June 2011.
 - [T.54] "End-User Development for Gestural Interface Design". Invited panelist, Third International Symposium on End-User Development (IS-EUD), Torre Canne, Italy, June 2011.
 - [T.53] "Architecting Next-Generation User-Interfaces". Invited talk, University of Grenoble, Grenoble, France, June 2011.
 - [T.52] "Architecting Microsoft's Natural User Interfaces". Invited talk, MDA Corporation, Brampton, ON, Canada, May 2011.
 - [T.51] "The Lowest-Common Denominator Looms Ahead". Invited Talk, Future of Touch & Interactivity Conference. Los Angeles, CA, Canada, May 2011.

- [T.50] "The Breadth-Depth Dichotomy: Opportunities and Crises in Expanding Sensing Capabilities". Invited Talk, SID Display Week 2011, Los Angeles, CA, USA, May 2011.
- [T.49] "Opportunities for Industry-Academia Collaboration in ICT Sector". Panel moderator, Mitacs Event, Toronto, ON, Canada, April 2011.
- [T.48] "Challenges and Opportunities in the HCI of touch and multi-touch". Invited talk, Egan Visual, Toronto, ON, Canada, April 2011.
- [T.47] "Enabling High-Bandwidth Human-Computer Interaction". Invited talk, Google Inc., Waterloo, ON, Canada, February 2011.
- [T.46] "Architecting Next Generation User Interfaces". Invited Talk, DUB Seminar, University of Washington, Seattle, WA, USA, November 2010.
- [T.45] "Architecting Next Generation User Interfaces". Invited Talk, Department of Computer Science, Queens University, Kingston, ON, Canada, November 2010.
- [T.44] "Architecting Next Generation User Interfaces". Invited talk, Smart Technologies, Calgary, AB, Canada, October 2010.
- [T.43] "Architecting Next Generation User Interfaces". Invited talk, Department of Computer Science, University of Calgary, Calgary, AB, Canada, October 2010.
- [T.42] "Architecting Next Generation User Interfaces". Invited talk, Department of Computer Science, University of British Columbia, Vancouver, BC, October 2010.
- [T.41] "Designing for new User Interface Technologies". Invited talk, Department of Computer Science, University of Waterloo, Waterloo, ON, Canada, October 2010
- [T.40] "Enabling the Future of Diverse User Interfaces". Keynote, *16th Annual Executive Forum* of the Information Technology Association of Canada. Ottawa, ON, Canada, October 2010.
- [T.39] "Designing Natural User Interfaces". Keynote, *HCSNet Workshop on Natural User Interfaces*. Melbourne, Australia, June 2010.
- [T.38] "Architecting Next-Generation User Interfaces". Invited talk, School of Information Technology & Electrical Engineering, University of Queensland. Brisbane, Australia, June 2010.
- [T.37] "Architecting Next-Generation User Interfaces". Plenary talk, *2010 International Working Conference on Advanced Visual Interfaces (AVI 2010)*. Rome, Italy, May 2010.
- [T.36] "Clothing the Emperor: Creating Authentic User Experiences for New Interactive Displays". Invited talk. *Interactive Displays 2010*. San Jose, CA, USA, April 2010.
- [T.35] "Architecting Next-Generation User Interfaces". Invited talk, Department of Computer Science, University of Toronto, Toronto, ON, Canada, March 2010.
- [T.34] "WeSearch: Supporting Collaborative Search and Sensemaking on a Tabletop Display". Paper presentation, *The 2010 ACM Conference on Computer Supported Cooperative Work (CSCW 2010)*. Savannah, GA, USA, February 2010.
- [T.33] "The Future of HCI". Guest lecture. *IMT 540a: Design Methods for Interaction and System*. Information School, University of Washington, Seattle, WA, USA, December 2009.
- [T.32] "Tabletop Computing: a History". Guest lecture. *INFO 498b: Input & Interaction*. Information School, University of Washington, Seattle, WA, USA, May 2009.
- [T.31] "The WeSpace: The Design, Development, and Deployment of a Walk-Up and Share Multi-Surface Visual Collaboration System". Paper presentation, *ACM SIGCHI Conference on Human Factors in Computing Systems*, Boston, MA, USA, April 2009.
- [T.30] "Designing User Interfaces for Multi-Touch and Gesture Devices". Special Interest Group, *ACM SIGCHI Conference on Human Factors in Computing Systems*, Boston, MA, USA, April 2009.
- [T.29] "The WeSpace: The Design, Development, and Deployment of a Walk-Up and Share Multi-Surface Visual Collaboration System". Invited talk, University of Washington, Seattle, WA, USA, March 2009.

- [T.28] "Natural User Interfaces: theory, development, and history". Guest lecture, School of Art, Division of Design, University of Washington, Seattle, WA, USA, February 2009.
- [T.27] "MultiTouch Technologies: applications, methods, and practices". Guest lecture, *CSE 510: Advanced Topics in Human Computer Interaction*. Department of Computer Science and Engineering, University of Washington, Seattle, WA, USA, February 2009.
- [T.26] "No Touch Left Behind". Guest presentation, *Expression Newsletter*, January 2009. <http://www.microsoft.com/expression/news-press/newsletter/2009-01/default.aspx?autostart=true>
- [T.25] "Critical Thinking and Novel Technologies". Guest lecture, *IMT 540a: Design Methods for Interaction and Systems*. Information School, University of Washington, Seattle, WA, USA, November 2008.
- [T.24] "Proxemics and Territoriality". Guest presentation, *Expression Newsletter*, September 2008. <http://www.microsoft.com/expression/news-press/newsletter/2008-09/default.aspx>
- [T.23] "Tabletop Interaction". Guest lecture, *INFO 498: Input & Interaction*. Information School, University of Washington, Seattle, WA, USA, May 2008.
- [T.22] "Interaction Principles". Guest Lecture, *CS171: Visualization*. School of Engineering and Applied Science, Harvard University, Cambridge, MA, USA, March 2008.
- [T.21] "Towards usable and useful multi-touch systems". Invited talk, College of Computer and Information Science, Northeastern University, Boston, MA, USA, February 2008.
- [T.20] "Towards usable and useful multi-touch systems". Invited talk, Department of Systems Design Engineering, University of Waterloo, Waterloo, ON, Canada, December 2007.
- [T.19] "Towards usable and useful multi-touch systems". Invited talk, *HCI Seminar Series, Fall 2007*, Massachusetts Institute of Technology, Cambridge, MA, USA, November 2007.
- [T.18] "Going Deeper: a Taxonomy of 3D on the Tabletop". Paper presentation, *The Second IEEE International Workshop on Horizontal Interactive Human-Computer Systems*, Newport, RI, USA, October 2007.
- [T.17] "Living with a Tabletop: Analysis and Observations of Long Term Office Use of a Multi-Touch Table". Paper presentation, *The Second IEEE International Workshop on Horizontal Interactive Human-Computer System*, Newport, RI, USA, October 2007.
- [T.16] "Far & Away: Remote and Distributed Tabletop Collaboration". Session chair, *The Second IEEE International Workshop on Horizontal Interactive Human-Computer Systems*, Newport, RI, USA, October 2007.
- [T.15] "LucidTouch: A See-Through Mobile Device". Paper presentation, *ACM UIST Symposium on User Interface Software and Technology*, Newport, RI, USA, October 2007.
- [T.14] "Efficient User Interfaces". Session chair, *ACM UIST Symposium on User Interface Software and Technology*, Newport, RI, USA, October 2007.
- [T.13] "Perception of Elementary Graphical Elements in Tabletop and Multi-Surface Environments". Paper presentation, *ACM SIGCHI Conference on Human Factors in Computing Systems*, San Jose, CA, USA, April 2007.
- [T.12] "Under the Table Interaction". Paper presentation, *ACM UIST 2006 Symposium on User Interface Software and Technology*, Montreux, Switzerland, October 2006.
- [T.11] "Multi Surface Environments". Invited talk, *Department of Computer Science, University of Tokyo*, Tokyo, Japan, July 2006.
- [T.10] "Multi Surface Environments". Invited talk, *Research Center for Advanced Science and Technology (RCAST)*, Tokyo, Japan, July 2006.
- [T.9] "Table-Centric Interactive Spaces for Real-Time Collaboration: Solutions, Evaluation, and Application Scenarios". Paper presentation, *Conference on Collaborative Technologies*, Tsukuba, Japan, July 2006.
- [T.8] "Effects of Display Position and Control Space Orientation on User Preference and Performance". Paper presentation, *ACM SIGCHI Conference on Human Factors in Computing Systems*, Montréal, QC, Canada, April 2006.

- [T.7] "Empirical Investigation into the Effect of Orientation on Text Readability in Tabletop Displays". Paper presentation, *ECSCW 2005 9th European Conference on Computer-Supported Cooperative Work*, Paris, France, September 2005.
- [T.6] "Chording and Tilting for Rapid, Unambiguous Text Entry to Mobile Phones". Invited talk, *Mitsubishi Electric Research Labs*, Cambridge, MA, USA, May 2005.
- [T.5] "Multi-Finger Gestural Interactions with 3D Volumetric Displays". Paper presentation, *ACM Symposium on User Interface Software and Technology*, Santa Fe, NM, USA, October 2004.
- [T.4] "Comparison of Consecutive and Concurrent Input Text Entry Techniques for Mobile Phones". Paper presentation, *ACM SIGCHI Conference on Human Factors in Computing Systems*, Vienna, Austria, April 2004.
- [T.3] "TiltText: Using tilt for text input to mobile phones". Paper presentation, *ACM Symposium on User Interface Software and Technology*, Vancouver, BC, Canada, November 2003.
- [T.2] "Hunter gatherer: within-web-page collection making". Live demonstration, *ACM SIGCHI Conference on Human Factors in Computing Systems*, Minneapolis, MN, USA, April 2002.
- [T.1] "The Enigma Machine and the Second World War". Invited talk, *Computing Insights*, University of Toronto, Toronto, ON, Canada, July 2002.

SERVICE

Juries & Grant Panels

NSF Funding Panel (2010, 2011, 2013) *National Science Foundation, USA*
 Bill Buxton Award (2013) Top Canadian HCI PhD Thesis
 College of Reviewers (2013) Mitacs (Canadian granting organization)
 ACM CHI: Student Research Competition Judge (2010) *Human Factors in Computing Systems*

Program Committees: Chairing

ACM UIST: Program Committee co-Chair (2014) *User Interface Software and Technology*
 ACM ITS: Program Committee co-Chair (2010, 2011) *Interactive Tabletops and Surfaces*

Program Committees: Membership

ACM CHI: Program Committee Associate Chair (2010, 2011, 2012, 2013, 2014) *Human Factors in Computing Systems*
 ACM UIST: Program Committee member (2010, 2012) *User Interface Software and Technology*
 ACM CSCW: Program Committee member (2013) *Computer Supported Cooperative Work*
 DIS: Program Committee Associate Chair (2012) *Designing Interactive Systems*
 GI: Program Committee member (2011) *Graphics Interfaces*
 Mobile HCI: Program Committee member (2010) *HCI with Mobile Devices & Services*
 ACM IUI: Program Committee member (2009) *Intelligent User Interfaces*
 ACM CHI: Workshops Committee member (2010) *Human Factors in Computing Systems*
 AVI PPD Workshop: Program Committee member (2008,2010) *Advanced Visual Interfaces: Touch & Multi-Display*
 IFIP Interact: Program Committee member (2009) *Human Computer Interaction*
 ACM ITS: Program Committee member (2007, 2008) *Interactive Tabletops and Surfaces*
 CollabTech: Program Committee member (2008) *Conference on Collaboration Technologies*

Organizing Committees: Content Management Roles

ACM CHI: People's Choice Best Talks Award Founding Chair (2014) *Human Factors in Computing Systems*
 ACM CHI: Best of CHI co-Chair (2014) *Human Factors in Computing Systems*
 ACM CHI: alt.chi co-Chair (2010, 2011) *Human Factors in Computing Systems*
 ACM SIGGRAPH: e-Tech Exhibition Curator (2009) *Computer Graphics & Interactive Techniques*
 ACM UIST: Demonstrations co-Chair (2007) *User Interface Software & Technology*

Invited Reviews: Conferences

ACM SIGGRAPH: Papers (2008, 2012, 2013) *Computer Graphics & Interactive Techniques*
 ACM CHI: Papers & Notes (2004, 2005, 2006, 2007, 2008, 2009) *Human Factors in Computing Systems*
 ACM UIST: Papers & Notes (2004, 2005, 2006, 2007, 2008, 2009, 2011, 2013) *User Interface Software & Technology*
 UBICOMP: Papers (2009, 2011) *Ubiquitous Computing*
 ACM CSCW: Papers (2010) *Computer Supported Cooperative Work*

ACM SUI: Papers (2013) Symposium on Spatial User Interfaces
 ACM CHI: Student Design Competition (2006, 2007, 2008, 2009) *Human Factors in Computing Systems*
 ACM CHI: Student Research Competition Judge (2010) *Human Factors in Computing Systems*
 ACM CHI: Works in Progress (2009) *Human Factors in Computing Systems*
 ACM CHI: Video Proceedings (2009) *Human Factors in Computing Systems*
 ACM EICS: Papers (2013) Engineering Interactive Computing Systems
 ACM UIST: Posters Committee (2006) *User Interface Software & Technology*
 IEEE ISWC: Papers (2005) *Wearable Computers*
 GI: Papers (2008, 2013) *Graphics Interface*
 TEI: Papers (2010) *Tangible and Embedded Interaction*

Invited Reviews: Journals

ToCHI (2012, 2013, 2014) *ACM Transactions on Computer-Human Interaction*
 CAG (2013) *Computers & Graphics*
 IHCS (2006, 2007, 2008, 2009, 2010, 2011, 2014) *International Journal of Human-Computer Studies*
 IEEE CG&A (2006) *IEEE Computer Graphics and Applications*

Invited Reviews: Grants & Internal Reviews

INRIA Project Evaluation (2013) French Research Institution
 FNRA Grants (2013) French National Research Agency
 NSERC Discovery Grants (2012) National Science and Engineering Research Council

Conference Organization

ACM UIST: Fundraising Chair (2011, 2012, 2013) *User Interface Software & Technology*
 ACM ITS: Proceedings Chair (2008, 2009) *Interactive Tabletops & Surfaces*
 ACM ITS: Publicity Chair (2007) *Interactive Tabletops & Surfaces*
 ACM ITS: Student Volunteers Chair (2007) *Interactive Tabletops & Surfaces*
 IEEE ISWC: Sponsorship & Exhibits Chair (2007) *Wearable Computers*

DANIEL WIGDOR CV APPENDIX: EXPERT WORK HISTORY

Since Consulting Expert Witness for Williams & Connolly

2014

Since Testifying Expert Witness for Quinn Emanuel, Southern District of Florida

2013

For Motorola Mobility with Quinn Emanuel in *Motorola Mobility, Inc. v. Apple Inc.*, No. 1:12-cv-20271-RNS (S.D. Fla). Case settled.

Testifying Expert Witness for Quinn Emanuel, Northern District of California

For Samsung with Quinn Emanuel Urquhart & Sullivan, LLP, in *Apple Inc. v. Samsung Electronics Co., Ltd., et al.*, No. 12-cv-00630-LHK (N.D. Cal.). Was deposed and testified. Case ended.

Testifying Expert Witness for Hogan Lovells, High Court of Justice (Great Britain)

For HTC with Hogan Lovells. Case settled.

Since Testifying Expert Witness for Kecker & Van Nest, Southern District of Florida

2012

For HTC with Kecker & Van Nest, LLP, in *Motorola Mobility, Inc. v. Apple Inc.* U.S. District Court for the Southern District of Florida, Case No. 1:12-cv-20271-RNS (S.D. Flo). Case settled.

Testifying Expert Witness for Quinn Emanuel, United States International Trade Commission

For HTC with Quinn Emanuel Urquhart & Sullivan, LLP in enforcement action in the *Matter of Certain Portable Electronic Devices and Related Software*, Inv. No. 337-TA-710 (ITC). Case settled.

Testifying Expert Witness for Powell Gilbert, High Court of Justice (Great Britain)

For HTC with Powell Gilbert LLP in patent litigation case in *Apple Inc. v. HTC Corp.*, Claim No. HC11 C03080, High Court of Justice, Chancery Division, Patents Court, Gr. Brit. Testified, was not deposed (per UK procedures for expert witnesses). Case ended.

Consulting Expert Witness for Quinn Emanuel, Northern District of California

For Samsung with Quinn Emanuel Urquhart & Sullivan, LLP in *Apple Inc. v. Samsung Electronics Co.*, No. 11-cv-01846 (N.D. Cal.). Consulted on case. Case ended.

Since Consulting Expert Witness for Perkins Coie, Delaware

2011

For HTC with Perkins Coie in *Apple Inc. v. HTC* No. 1:2010-cv-00167 (D. Del.). Case settled.

Testifying Expert Witness for Quinn Emanuel, United States International Trade Commission

For HTC with Quinn Emanuel Urquhart & Sullivan, LLP, in the *Matter of Certain Portable Electronic Devices and Related Software*, Inv. No. 337-TA-797 (ITC). Was deposed, and testified. Case settled.